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NHTSA Docket No. 99-6550 - 7
Docket Management, Room PL-40 1
U.S. Department of Transportation
400 Seventh Street, SW
Washington, DC 20590

Heavy Vehicle Antilock Brake System Performance Requirement - Single Unit Trucks and Buses, Notice of Proposed Rulemaking, 64 FR 71377 et seq., December 21, 1999

Advocates for Highway and Auto Safety (Advocates) appreciates this opportunity to provide comments in response to the captioned proposed rule by the National Highway Traffic Safety Administration (NHTSA) establishing performance requirements, including compliance test parameters, for single-unit trucks and buses required to be equipped with antilock braking systems (ABS). NHTSA proposes applying a braking-in-a-curve dynamic performance requirement to determine the braking effectiveness of ABS-equipped single-unit trucks (SUTs) and buses with gross vehicle weight ratings between 10,001 and 26,000 pounds. We commend the agency for continuing to pursue its long-term regulatory program to improve the safety performance of medium and heavy trucks and buses. The proposed rule, if adopted, will reduce deaths and injuries on our nation's highways.

Advocates will not review in detail the test parameters for compliance evaluation of newly manufactured trucks and buses. In general, we agree with the values proposed by the agency, including the higher centers-of-gravity for the laden and unladen test conditions which we agree are appropriate for SUTs because of the lack of a fifth-wheel as found on truck tractors. We also agree that the brake pedal force level and pedal application duration are reasonable values, based on the findings of the agency's tests as described in *Single-Unit Truck and Bus ABS Braking-In-A-Curve Performance Testing*, NHTSA, DOT HS 809 941, February 1999; and in *Single-Unit Truck and Bus ABS Performance Testing Braking-In-A-Curve Addendum Event Report*, NHTSA, Vehicle Research and Test Center, December 1999.

With respect to costs and benefits, while we generally agree with the range of projected benefits for lives saved, Advocates regards the figures of 16 to 34 truck and bus occupant fatalities, and of 79 to 117 other-vehicle occupant fatalities to be very conservative figures. Moreover, although forming no part of the agency's benefits assessment, Advocates strongly believes that adopting the proposed regulation will avert numerous injury crashes which otherwise would occur because of the ability of large SUTs and buses to maintain steering control and vehicle direction in hard braking circumstances, and also to reduce the severity of many crashes which nevertheless occur.

In addition, although also forming no part of the agency's argument for benefits in this



rulemaking, compliance testing pursuant to the criteria proposed in this draft regulation will abet the elimination of some rollover crashes by maintaining vehicle stability and control. Advocates would like to take this opportunity to stress that NHTSA is compelled to review benefits within the highly narrow confines of the effects which directly ensue from the compliance test regime under test track conditions. However, an improvement in medium vehicle braking and control has multiple, synergistic safety benefits in actual highway operations. It is clear to us that maintaining vehicle stability and control in medium commercial vehicles will help to prevent some rollover crashes. Although it must be conceded that crash avoidance, in particular, is a conundrum resisting precise quantification in many instances, especially for judging reductions in injuries and property damage, Advocates is convinced that there will be important, additional crash avoidance benefits deriving from this regulation for which the agency cannot supply figures to support its argument for promulgating this proposal as a final rule.

However, we must take exception to NHTSA's repeated characterization in this proposed rule that it has adopted worst-case conditions both for vehicle loading and, especially, for the simulated highway conditions under which compliance testing would take place. See, *e.g.*, 64 FR 71377, 71379.

With regard to the highway conditions selected, a road surface with a zero longitudinal slope and 500-foot continuous curve radius matched with cross-section values of a 12-foot-wide lane and a one percent cross slope does not even approach worst-case operating conditions, especially for SUTs. The recent editions of the Federal Highway Administration's (FHWA) *Highway Statistics* (*e.g.*, 1998) clearly indicate that substantial percentages of both federally assisted and non-federally assisted highway mileage contain lanes less than 12 feet in width. In fact, SUTs, although on average accruing far less vehicle-miles-traveled (VMT) on an annual basis than tractor-trailers, operate on lower-class roads a far greater percentage of the time than combination commercial vehicles. FHWA's Table HM-53 shows, for example, that the great majority of Major Collector routes throughout the states comprises lanes less than 12 feet wide. In fact, only two-thirds of even Minor Arterial highways have lanes 12 feet wide. A large percentage of SUTs accumulate a majority of their annual VMT on roads with lanes less than 12 feet wide.

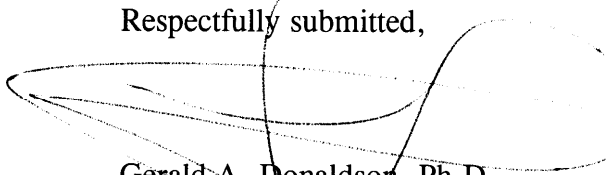
With regard to road cross-section profile, a high percentage of roads, especially major collector routes, have crowns with transverse slopes exceeding one percent. Similarly, a road surface with a zero longitudinal slope means that it is flat -- there is no grade. Clearly, SUTs encounter hard braking conditions a substantial percentage of the time on downgrades which substantially increase braking distances and create additional demands on steering control and vehicle direction. A review of the major collector routes in many mid-western and western states alone reveals that a high percentage of these routes have significant vertical alignment changes, with thousands of locations with more than 3 percent grades. SUTs commonly operate on these roads.

Finally, cg load height for the SUT compliance tests is indexed at 32 inches above grade. As NHTSA states in the instant Notice, since the protocol for the braking-in-a-curve test was controlled to ensure that it tested vehicle yaw stability rather than roll stability, a confounding vehicle behavior which the agency wished to avoid, the center-of-gravity height chosen is far less than commonly encountered in actual operations with cargo. 64 FR 71382.

Consequently, Advocates regards the test conditions selected for the proposed rule's compliance parameters to be quite indulgent. Along with the requirement that a tested vehicle maintain its lane (12 feet wide) in only three of four brakings, manufacturers should have no difficulty in demonstrating compliance under these relatively lenient test conditions. Advocates believes that manufacturers would have no basis for requesting weakened test conditions since the proposed compliance criteria are not demanding. In fact, few vehicles properly equipped with ABS are projected to fail the proposed braking-in-a-curve test.

Advocates supports a compliance date of two years after final rule publication.

Respectfully submitted,



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